UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8960

December 18, 2009

Mr. Richard A. Hargis
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochrans Mill Road
P.O. Box 10940
Pittsburgh, PA 15236

RE: EPA Comments Regarding
Draft Environmental Impact Statement (DEIS) for the
Kemper County Integrated Gasification Combined-Cycle (IGCC) Project
CEQ No. 20090374

Dear Mr. Hargis:

The U.S. Environmental Protection Agency (EPA), pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, reviewed the subject Draft Environmental Impact Statement (DEIS) for the proposed power plant and lignite mine. The project also includes new electrical power transmission lines and upgrades of some existing transmission lines, a natural gas supply pipeline, a reclaimed water supply pipeline, and a carbon dioxide (CO_2) pipeline for offsite use in enhanced oil recovery (EOR). The purpose of this letter is to provide EPA's NEPA review comments on the DEIS regarding the proposed project.

The U.S. Department of Energy (DOE) proposes to provide cost-shared funding and a loan guarantee under the Clean Coal Power Initiative (CCPI) for the proposed Integrated Gasification Combined-Cycle (IGCC) Project. Development of this CCPI demonstration project will include the adjacent lignite mine, electrical generating station structure and facilities, including an intake and discharge structures, cooling towers, and roads. We note that DOE's proposed funding and loan guarantee do not include the lignite mine, although the DEIS evaluates the impact of permitting the mine as a related federal action for which US Army Corps of Engineers (USCOE) is the lead agency.

The emissions reduction advantages of an IGCC system include less SO_2, NO_x, Hg, and particulate emissions compared to other lignite coal-fired power plants. The facility would convert lignite into a synthesis gas (syngas) to fuel the plant's combustion turbine generating units. The DEIS notes that up to 99% of sulfur from the lignite will be removed and converted to a marketable product; up to 92% of the mercury will be removed; and up to 90% of carbon monoxide in the syngas will be converted to carbon dioxide. Up to 67% of carbon dioxide will be scrubbed from plant stack emissions and in the process of subsequent usage for offsite enhanced oil recovery, some portion of the injected carbon dioxide may be sequestered. Since the use of the captured carbon dioxide for enhanced oil recovery presents an opportunity to evaluate the efficacy of carbon sequestration at the injection site, we recommend that the applicant implement monitoring to determine the efficiency of the sequestration.

We agree with the emissions reduction advantages and the efficient use of the byproducts of the IGCC process. However, there are inherent environmental concerns regarding the direct and cumulative impacts of power stations and mining operations. Potential impacts of the proposed power plant and lignite mine include air quality, water resources, wetlands, waste, and floodplain impacts; ecological, construction, community, cultural and archaeological resources, and cumulative effects. Ash containment and spill prevention, post-mining stream and habitat reclamation, wetlands mitigation, and surface water/drainage pathways are of particular concern to EPA.

EPA is reviewing the impacts to wetlands and streams in response to the COE's public notices for the Clean Water Act Section 404 permit applications, and is currently preparing a separate letter in accordance with Section 404 coordination procedures. One issue that needs to be addressed in particular is appropriate use of site protection instruments, (such as conservation easements or other legal instruments for protecting a compensatory mitigation area in perpetuity), which will be required by the COE for any permittee-responsible mitigation for the mining area and the IGCC site. Permittee-responsible mitigation refers to the restoration, establishment, enhancement or preservation of wetlands or streams undertaken by a permittee in order to compensate for wetland or stream impacts resulting from the project.

EPA supports the selection of the IGCC technology as the preferred alternative. Based on EPA's review of the DEIS, the DOE's preferred alternative (cost-shared funding and a loan guarantee to support the startup of the IGCC power plant) received a rating of "EC-2." This means that some environmental concerns exist regarding aspects of the proposed project, and that further information is requested in the Final EIS (FEIS). (See the enclosed *Summary of Rating Definitions and Follow up Action.*)

The DEIS notes that the other power generation technologies considered in the DEIS were dismissed by DOE because they do not meet the CCPI program's purpose and need, nor do they meet those of the applicant. The EC-2 rating is based on the selection of the IGCC alternative along with the proposed mitigation commitments. However, should a different alternative ultimately be pursued that would result in increased impacts, then additional NEPA evaluation and interagency coordination could be expected by EPA.

Our detailed comments are enclosed. We appreciate the opportunity to provide these comments, and appreciate your early and continuing coordination with us. If you have questions, please coordinate them with Ramona McConney (404/562-9615).

Sincerely,

Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

Enclosures: EPA review comments
Summary of Rating Definitions and Follow up Action

Cc: Skip Young, P.G., USACOE Mobile District

EPA Comments for
Draft Environmental Impact Statement (DEIS)
Kemper County IGCC and Lignite Mine

General

The Kemper County IGCC Project DEIS analyses and modeling appear to be in accordance with appropriate EPA regulations and guidance. Our specific comments identify areas where clarification or additional information is requested.

Alternatives

Alternative sites, mine plans, water supply sources, linear facility routes, transmission line routes, carbon dioxide sequestration, and power generation technologies were evaluated.

Alternative sites: While the Kemper County site is the preferred site for the proposed project, alternative sites were considered in the EIS, consistent with NEPA. Due to the CCPI program's purpose and need, and the specific requirements of the proposed IGCC plant and lignite mine, the alternative sites and power generation technologies were dismissed from consideration.

Alternative technologies: In addition to the IGCC Solid Feed Gasifier technology using lignite coal, alternative technologies using lignite and sub-bituminous coal were evaluated. These technologies included the IGCC Slurry Feed Gasifier, subcritical pulverized coal, supercritical pulverized coal and ultra supercritical pulverized coal. The DEIS notes that the alternative power generation technologies considered in the DEIS were dismissed by DOE because they do not meet the CCPI program's purpose and need, nor do they meet the purpose and need of the applicant. However, should a different alternative ultimately be pursued that would result in increased impacts, then additional NEPA evaluation and interagency coordination could be expected by EPA.

Air Quality

The Kemper County Integrated Gasification Combined-Cycle (IGCC) Project DEIS generally addresses the important issues related to air quality and human health impacts from inhalation of air emissions from the proposed IGCC facility. The air quality analyses and modeling appear to be in accordance with appropriate EPA regulations and guidance. However, there are a few areas where additional supplemental information is required.

PSD Permitting: The proposed project requires a Prevention of Significant Deterioration (PSD) permit from the Mississippi Department of Environmental Quality (MDEQ), which was issued on October 14, 2008. This PSD permit addresses the types of control methods to be included for each PSD pollutant and estimates pollutant impacts on PSD Class I and II areas.

However, the FEIS should include updated information due to the pending revision the PSD Permit by MDEQ. We understand that this revision results from a change in equipment availability. Section 4.2.1.2, pages 4-5 through 4-14 of the DEIS summarizes the air quality modeling and analysis conducted for the PSD permit application. In addition, the FEIS should provide updated

information, consistent with the modeling and analysis conducted for the final PSD permit, if there are any differences from the information currently presented in the DEIS.

Further, the FEIS should include a discussion of fly and combustion ash, such as possible uses and safeguards, in relation to the PSD Permit.

Air Toxics

Since the State of Mississippi has responsibility for submitting the State Plan encompassing all subject coal-fired facilities in the State, allocating emissions, and overseeing the monitoring program, the applicant will need to continue coordinating with MDEQ on these issues.

The DEIS lacks a discussion on the fate and transport of persistent, bioaccumulative, toxic (PBT) hazardous air pollutants (HAPs), such as mercury. Once deposited on soil and surface water, PBTs can cause significant ecological harm. Please include discussion of the fate and transport in wetlands, waterways, and biota in the FEIS. We recommend that you coordinate with the State of Mississippi regarding fish tissue data available for the area. Additionally, the current state of concentrations and how the facility is likely to affect these concentrations should be considered.

Sections 3.3.2 and 3.3.3, pages 3-2 through 3-10 of the DEIS provide a good summary of the affected environment for the six criteria air pollutants. However, there is only a brief reference to HAPs (or air toxics) on page 3-10. Additional information regarding the ambient levels and emissions of air toxics should be provided in this Section of the DEIS. Examples of data that could be provided include:

- Measured ambient air concentrations from air toxics monitors (according to the MDEQ website, there are 5 air toxics monitoring sites in Mississippi with the closest site being located in Jackson, Mississippi.) (http://www.deq.state.ms.us/MDEQ.nsf/page/Air_MonitoringSites?OpenDocument)

- Sources and emission rates of air toxics contained in EPA's National Emissions Inventory (NEI) database. (http://www.epa.gov/ttn/chief/eiinformation.html)

- Summarized results from the 2002 National Air Toxics Assessment (NATA) for Kemper County and how they compare with regional and national data. (http://www.epa.gov/ttn/atw/nata2002/index.html).

Section 4.2.19.2, pages 4-117 through 4-123 of the DEIS summarizes the HAPs Impact Analyses that were conducted for the project. It would be helpful to provide a reference to these analyses in Section 4.2.1 "Atmospheric Resources and Air Quality." It was not obvious from the title of Section 4.2.19 "Human Health and Safety" that this section would contain an analysis of the impacts from air toxics (HAPs). We suggest that these two sections be cross-referenced to help the reader locate all relevant information related to air impact analyses.

Section 4.2.19.2, page 4-118 discusses cancer and noncancerous risks. The DEIS indicates that the county-average risks from the IGCC project were added to Kemper County results from the 1999 NATA. The 2002 NATA is now available, and we recommend that the 1999 NATA data be

replaced with the 2002 NATA data in the FEIS to reflect the most recent analysis. We also suggest revising Table 4.2-48 to reflect the 2002 NATA results.

The mercury deposition data presented in Section 4.2.19.2, Page 4-122 of the DEIS summarizes the mercury deposition modeling and analysis that was performed, and refers to Appendix R for more details. Appendix R provides a summary of the analyses that were conducted. The FEIS should cite the Clean Air Mercury Rule (CAMR) technical basis for focusing on mercury.

However, during our meeting on December 8, 2009, EPA recommended that the DOE evaluate the mercury deposition and risk analysis that were prepared as part of the EIS process for the Santee Cooper Pee Dee Generation Facility (a formerly proposed coal-fired power plant facility) located near Kingsburg, South Carolina. In an email dated December 10, 2009, EPA provided a copy of the Pee Dee "Mercury Deposition and Risk Assessment" to Mr. Joel Trouart and Ms. Rebecca Buell. We reiterate the recommendation that DOE consider supplementing the mercury deposition analysis for the Kemper County Project with relevant information and analyses from the Pee Dee analysis.

In the mercury deposition discussion in Section 4.2.19.2, page 4-122, the DEIS states that the analysis was done assuming 90% of the total mercury emissions from the CT/HRSG stack would be in the form of elemental mercury, 10% would be reactive gaseous mercury (RGM) also known as divalent mercury (Hg^{+2}), and only trace amounts of particulate mercury. A reference should be provided for these mercury speciation assumptions. As the RGM fraction is the critical factor for the local impact deposition analysis, it is important that the speciation assumptions reflect the best information available for the proposed IGCC project.

The air quality cumulative effects analysis is briefly discussed in Section 6.1.1, Pages 6-1 through 6-2 of the DEIS. The discussion is limited to cumulative effects from criteria air pollutants. This DEIS section should be expanded to include a discussion of cumulative effects from air toxics as well. The risk analyses presented in Section 4.2.19.2 and Appendix R could be referenced in this discussion of cumulative effects from air toxics.

Appendix R of the DEIS summarizes the air dispersion and deposition modeling done for the screening level assessment of air toxics. Based on the summary discussion, it appears that the modeling procedures were appropriate. In order to verify that correct procedures and model input parameters were used, it would be helpful to have electronic copies of the input and output files from the modeling. EPA is requesting that copies of these files be provided on a CD or DVD to Mr. Rick Gillam in EPA Region 4's Air Quality Modeling and Transportation Section, so that a complete review of the modeling may be conducted. Mr. Gillam may be contacted at 404/562-9049 or gillam.rick@epa.gov.

Noise

All construction equipment should be equipped with factory mufflers and engine housings to minimize construction noise. All OSHA regulations relating to noise should be followed.

Blowdowns during plant operations are a concern to EPA, since the resulting noise is significant, and area residents will need to be notified in advance by the applicant. Provisions should be made to minimize noise impacts where feasible.

According to the document, one residence will experience noise levels above EPA's threshold. Does this number include all residences/residents within the project area, or are buildings planned for sale or lease already excluded?

- How many residents will experience significant increases in the level of noise (doubling of noise levels or a +10dBA incremental increase) than they currently experience?

- Noise induced hearing loss is the most common occupational disease in the U.S., and can be severe in mining. For employee and residential health and safety, the FEIS should clarify the types of noise attenuating strategies that are proposed for the machinery and trucks that will be used onsite and on-road. Please review the NIOSH fact sheet on noise for recommendations.

Diesel Exhaust

NIOSH has determined that diesel exhaust is a potential human carcinogen, based on a combination of chemical, genotoxicity, and carcinogenicity data. In addition, acute exposures to diesel exhaust have been linked to health problems such as eye and nose irritation, headaches, nausea, and asthma.

Although every construction site is unique, common actions can reduce exposure to diesel exhaust. EPA recommends that the following actions be considered for construction and operating equipment:

- Using low-sulphur diesel fuel (less than 0.05% sulphur).
- Retrofit engines with an exhaust filtration device to capture DPM before it enters the workplace.
- Position the exhaust pipe so that diesel fumes are directed away from the operator and nearby workers, thereby reducing the fume concentration to which personnel are exposed.
- A catalytic converter reduces carbon monoxide, aldehydes, and hydrocarbons in diesel fumes. These devices must be used with low sulphur fuels.
- Ventilate wherever diesel equipment operates indoors. Roof vents, open doors and windows, roof fans, or other mechanical systems help move fresh air through work areas. As buildings under construction are gradually enclosed, remember that fumes from diesel equipment operating indoors can build up to dangerous levels without adequate ventilation.
- Attach a hose to the tailpipe of a diesel vehicle running indoors and exhaust the fumes outside, where they cannot reenter the workplace. Inspect hoses regularly for defects and damage.
- Use enclosed, climate-controlled cabs pressurized and equipped with high efficiency particulate air (HEPA) filters to reduce operators' exposure to diesel fumes. Pressurization ensures that air moves from inside to outside. HEPA filters ensure that any air coming in is filtered first.
- Regular maintenance of diesel engines is essential to keep exhaust emissions low. Follow the manufacturer's recommended maintenance schedule and procedures. Smoke color can signal the need for maintenance. For example, blue/black smoke indicates that an engine requires servicing or tuning.

- Work practices and training can help reduce exposure. For example, measures such as turning off engines when vehicles are stopped for more than a few minutes; training diesel-equipment operators to perform routine inspection and maintenance of filtration devices.
- When purchasing a new vehicle, ensure that it is equipped with the most advanced emission control systems available.
- With older vehicles, use electric starting aids such as block heaters to warm the engine, avoid difficulty starting, and thereby reduce diesel emissions.
- Respirators are only an interim measure to control exposure to diesel emissions. In most cases an N95 respirator is adequate. Respirators are for interim use only, until primary controls such as ventilation can be implemented. Workers must be trained and fit-tested before they wear respirators. Personnel familiar with the selection, care, and use of respirators must perform the fit testing. Respirators must bear a National Institute of Occupational Safety and Health (NIOSH) approval number. Never use paper masks or surgical masks without NIOSH approval numbers.

Surface Water Quality

Based on the DEIS and Clean Water Act Section 404 permit application, up to 32 miles of perennial stream channels and 24 miles of intermittent stream channels would temporarily be removed by construction and lignite extraction at the adjacent mine. In addition, three creeks would be diverted, and some intermittent streams would be intercepted by diversion channels and routed around active mining areas. Upon completion of all mining and reclamation, the pre-mining drainage patterns are proposed to be restored. EPA believes that it is important that creeks and streams be restored in a manner that maintains pre-mine stream flow rates and sinuosity.

The DEIS states that the diverted streams would provide similar habitat and support similar biological communities to the existing undisturbed streams. EPA recommends that the diverted streams be designed so that stream length and flow is at a rate similar to pre-mining, since a change in water velocity, although temporary, would create impacts. In addition, potential effects of stream diversions on the food chain for aquatic species should also be evaluated. Local air deposition of mercury should be discussed, along with plans for mitigation (see Air Toxics comments). This should be provided in the FEIS as well as the Section 404 permit application.

The Sowashee Creek is on the impaired waters list and is a low-diversity habitat for aquatic species. Currently, effluent from publically owned treatment works (POTWs) is directed into Sowashee Creek, but the IGCC project plans call for diverting effluent from the POTWs for use in the power plant's operations requiring cooling and non-potable water. This reclaimed water would be delivered to the site via pipelines. We note that the State of Mississippi's regulations require that new power generating facilities use nonpotable water. Therefore, Sowashee Creek would receive less effluent from the POTWs, reducing the amount of fine particulate organics, ammonia, chlorine and biological oxygen demand in the creek.

Drainage from the area ultimately reaches Okatibbe Lake. The DEIS states that the total volume of water reaching this lake would not be appreciably altered, but that the timing and quality of flow would be altered during mining. Since Okatibbe Lake contains flood control structures subject to Section 408 of the River and Harbors Act, any alterations that would affect the structures would require further evaluation and compliance with the Section 408 regulations. We note that current

plans do not call for any impacts to Okatibbe Lake, however, if plans change, then Section 408 requirements will need to be met. This should be discussed in the FEIS.

Recommendation:

The diverted streams should be designed so that stream length and flow is at a rate similar to pre-mining. In addition, potential effects of stream diversions on the food chain for aquatic species should be evaluated. Local air deposition of mercury should be discussed, along with plans for mitigation. This should be provided in the FEIS as well as the Section 404 permit application.

Groundwater Quality

Current plans for water supply for the power plant cooling operations call for effluent usage from two City of Meridian POTWs, rather than from groundwater wells. The effluent should meet appropriate MDEQ water quality standards for nonpotable uses. However, the power plant could use up to 1 MGD of saline ground water from the Massive Sand aquifer if necessary. The lignite mine will require ongoing mine pit water control, which would cause drawdown in the shallow Middle Wilcox aquifer and could potentially adversely impact water supply of some local ground water wells.

Post-mining groundwater quality in the reclaimed mine area cannot be predicted with certainty, but it is likely that groundwater would contain a higher level of total dissolved solids (TDS).

Recommendation:

The FEIS should discuss drinking water sources in the area, the presence or absence of sole source aquifers, water quantity issues, and any other potential impacts to groundwater that might occur as the result of this project. Proposed groundwater monitoring and mitigation should also be discussed in the FEIS.

Waters of the U.S.

Per the DEIS, the Construction of the IGCC power plant would impact approximately 30 acres of wetlands and the lignite mine would impact approximately 2,374 acres of wetlands. The DEIS notes that many of the wetlands have already been impacted by conversion to pine plantations, and degraded by silt runoff as well. The IGCC plant and associated activities would also impact 3,632 linear feet (lf) of streams. The lignite mine would impact approximately 298,000 lf of streams, including perennial reaches.

Appendix P of the DEIS outlines the compensatory mitigation plans for these impacts and includes a monitoring schedule and success determination criteria. We note that this plan must be consistent with USACE's Mobile District's mitigation requirements pursuant to the Clean Water Act Section 404 permit for the project. We note that the compensatory mitigation plan needs to comply with the April 2008 Mitigation Rule. These impacts are being reviewed separately in response to the COE's public notices for the Section 404 permit applications, and EPA is preparing a letter in accordance with Section 404 coordination procedures. One issue to note is that appropriate use of site protection instruments will be required for any permittee-responsible mitigation.

NPDES Permitting

Under the preferred alternative, no new process wastewater discharges are proposed for the power plant site, since the applicant will use reclaimed effluent for industrial cooling water supply. This would reduce flow in Sowashee Creek, an impaired water body.

However, an NPDES Permit will be required for storm water and for process water from the lignite mine. A pollution prevention plan will be required.

The DEIS needs to discuss in more detail all the proposed NPDES permit discharges and associated applicable effluent guidelines. The mining operations will be subject to 40 Code of Federal Regulations (C.F.R.) Part 434, which sets minimum guidelines for water discharged during active mining through post-mining operations from sedimentation basins, as well as effluent guidelines for coal preparation operations (e.g., coal cleaning). Point source discharges for the power plant (e.g., cooling tower blowdown, metals cleaning wastes, low volume wastes, etc.) will be subject to 40 C.F.R. 423.

In regard to the mining operations, recent studies by EPA Region 3 have highlighted the impacts of relatively high conductivity levels (or TDS concentrations) in coal mining effluent and the downstream aquatic life. The DEIS should discuss baseline biological and chemical conditions both upstream (if possible) and immediately downstream of NPDES-permitted sedimentation ponds. Sampling sites should include the following locations, and chemical and biological sampling should be done concurrently:

- One sampling point located upstream of the sediment pond.

- One in-stream monitoring site located immediately below the toe of a sedimentation pond outfall to be used for effluent monitoring requirements in this NPDES permit. The selected outfall must be representative of the composition effluent being discharged under worst case conditions (i.e, "representative outfall"). Therefore, the selected representative outfall must discharge to the receiving waterbody with the lowest 7-day consecutive flowrate with a 10-year frequency (i.e., 7Q10) on the mine site area which is currently undergoing the most mining disturbance, based on data/information submitted in the permit application.

- One sampling point located *the further* of 200 meters (656 feet) downstream of a NPDES-permitted sedimentation pond outfall or the furthest downstream location that is upstream of any intervening tributaries. The sampling point should be downstream of riprap and other disturbance and located within a relatively natural and intact riparian zone.

- One sampling point located downstream of the first intervening tributary.

Biological sampling should be implemented using the approved state protocols and methodology for benthic macroinvertebrates sampling. The suite of chemical parameters and test methods to be included in the discussion are as follows:

List of Parameters of Concern for Coal Mines:

Parameter	Test Method
Stream Flow, cubic feet per second	
Specific conductance, uS/cm	
TDS, mg/l	EPA Method 160.1
Sulfates, mg/l	EPA Method 300.0
Chlorides, mg/l	EPA Method 300.0
Bicarbonate Alkalinity, mg/l	
Total Dissolved Antimony, ug/l	EPA Method 200.8
Total Dissolved Arsenic, ug/l	EPA Method 200.8
Total Dissolved Beryllium, ug/l	EPA Method 200.8
Total Dissolved Cadmium, ug/l	EPA Method 200.8
Total Dissolved Chromium, ug/l	EPA Method 200.8
Total Dissolved Copper, ug/l	EPA Method 200.8
Total Dissolved Iron, ug/l	EPA Method 200.8
Total Dissolved Lead, ug/l	EPA Method 200.8
Total Dissolved Manganese, ug/l	EPA Method 200.8
Total Dissolved Mercury, ug/l	EPA Method 1631E
Total Dissolved Nickel, ug/l	EPA Method 200.8
Total Dissolved Selenium, ug/l	EPA Method 200.8
Total Dissolved Silver, ug/l	EPA Method 200.8
Total Dissolved Thallium, ug/L	EPA Method 200.8
Total Dissolved Zinc, ug/l	EPA Method 200.8
Hardness, mg/l (as $CaCO_3$)	SM 2340B
pH, Standard Units	
Total Calcium, ug/l	EPA Method 200.7
Total Magnesium, ug/l	EPA Method 200.7
Total Sodium, ug/l	
Total Potassium, ug/l	

The relatively high conductivity that results from coal mining correlates with the contact time of water with crushed rock. Therefore, the FEIS should also contain a more robust discussion of the best management practices (BMPs) that will be used to address ways to:

- Avoid and minimize the contact between storm water and overburden and mining areas, i.e., managing water through grading and water diversions to reduce the level of pollutants in discharges.

- Avoid and minimize infiltration and percolation of storm water through overburden and mining areas by hauling or conveying coal mine waste in a controlled manner and compact in each lift and use compact fill construction.

- Use weathered overburden materials (e.g., brown sandstones) as topsoil substitution where topsoil cannot be stockpiled for redistribution (these weathered overburden materials have reduced potential to leach pollution-related ions to discharge water).

- Implement the Forest Reclamation Approach to increase evapotransporation and reduce runoff and restore vegetation.

Waste

Wastes from mining operations and coal-fired power plants are of concern, particularly since spills and airborne particles from ash can potentially transport metals and hazardous components offsite. It is important that all wastes be handled in a manner to prevent hazards to onsite workers, as well to prevent hazards to offsite populations. We note that dry ash waste from plant operations will be stored on the IGCC site.

Coordination with the MDEQ or EPA is advised regarding hazardous waste issues. If any hazardous waste is discovered on the selected construction site, this should be reported promptly to appropriate agencies and appropriately addressed prior to site clearing and plant construction. We appreciate your commitment, as stated in the DEIS, to implement waste reduction, recycling, and reuse to the extent practicable during the construction and operation of the mine and power plant.

Environmental Justice (EJ)

The IGCC plant and lignite mine will be located in an identified EJ area, since Kemper County has a higher percentage of minorities and population below the poverty level, in comparison to other Mississippi counties and the U.S in general. Therefore, DOE assessed the potential for disproportionately high and adverse health and environmental effects on EJ populations, per Executive Order 12898.

DOE determined that the project would not place high and adverse impacts on an EJ community. According to the DEIS, the project will not displace local residents and businesses, but landowners within the boundaries of the future mine site will be compensated for the use of their land through negotiated agreements with the mine owner. It is unclear about the exact number of affected landowners, and of the percentage of landowners, residents or businesses that are low-income or minority. The FEIS should clarify this information.

Based on our review, air quality, water quality and noise and health impacts would not exceed regulatory standards. However, while the area's air quality would remain within the National Ambient Air Quality Standards (NAAQS increase from 2%-12%) and comply with the PSD regulations (8% to 71%), there will be a large increase in some air pollutants from the current baseline anticipated as a result of the proposed project. Some of these pollutants, such as SO_2 and Nox, can potentially travel over distances. The FEIS EJ section should summarize these and other key pollutants that may be transported outside the counties within the project area (i.e., counties adjacent to Kemper County with significant EJ populations), and identify any potential environmental health impacts that may accrue to communities.

Page S-19 of the DEIS states that up to 80 trucks per day (16-hours per day), will transport materials from Choctaw to Kemper County during the initial six months of operation startup. However, page 4-13 indicates that approximately 50-60 trucks per day will deliver lignite to the plant for a period of six months, over the course of 70 miles. The latter values appear to have been

used to calculate potential emissions. The FEIS should ensure that the estimated number of trucks that will be used to transport lignite from Choctaw to Kemper County are consistent throughout the document, and accurately reflect the assumptions used to calculate projected emissions, and that every effort is made to minimize further air emissions (e.g., using low sulfur diesel fuel) and routes avoiding residential areas.

According to the DEIS, local roads surrounding the power plant and mine will be affected by the increased traffic. The DEIS also indicates that accidents are currently the third leading cause of death on the local streets in the area. To what extent will this project exacerbate these issues both during construction and during the initial 6-month startup period when lignite is being transported to the plant? We recommend that commitments to minimize and mitigate any of the anticipated impacts within the EJ community should be discussed in the FEIS.

According to the DEIS, transportation, housing availability, and aesthetic impacts to the EJ population would be the same as for the general population. However, the effect of the impact may be disparate. In addition, job creation from the project is expected to promote economic development. Sharing of economic benefits by all should be encouraged. The project is projected to employ 105 employees full time for the demonstration period, and 90 employees during long-term operation, with 500 to 1,500 construction employees.

The DEIS notes that Mississippi Power and North American Coal Corporation (NACC) have voiced their commitment to affirmative action hiring practices, and NACC's history of hiring workers in the local area for their mining operations, when qualified individuals are located in the local area. The DEIS concludes that minorities would be well represented in the workforce for both the power plant and the mining operation. The DEIS cites the Red Hills Mine as an example of the NACC's hiring practices. The mine includes a population that is 8% women and 18% minority. Red Hills Mine employees are 82% Caucasian, while the State of Mississippi is 60.1% Caucasian. We encourage the applicants to continue to pursue a strategy of providing employment opportunities for the local EJ community so that they benefit equitably from the project development.

The socioeconomics section of the DEIS addressed the positive impacts of the project from taxes, payroll and jobs. The only potential adverse impact discussed was housing availability. There is no discussion related to increases to the power customers that may result from the Baseload Act that was passed by the State of Mississippi in 2008, which allows Mississippi Power to raise customer rates to help pay for the plant prior to construction. How are these rates going to affect area residents that are low income or minorities? Will the entire service area pay for these costs? Is this effect going to place a disproportionate burden on these communities? The FEIS should further explain these issues.

According to the DEIS, noise levels along MS 493 would alter the quiet environment that currently exists. What is the projected change in noise level and how many residential units would be affected? The proportion of these residents from EJ populations should be clarified. These issues should be further addressed in the FEIS.

Schools

The DEIS states that area wide community services are adequate (e.g., schools and hospitals). However, two of the three schools that were mentioned in the DEIS within Kemper County, i.e., Kemper County High and West Kemper Elementary, are listed as underperforming schools. In addition, the growth requirements were not met for either of these schools. Schools in the Meridian Public School District where many students will also attend received mostly low ratings. To assist with revitalization of the area, and to ensure adequate and appropriate education of future facility employees and their families, we would encourage the applicants to partner with these schools to improve the educational opportunities in the immediate area. In the Lauderdale County School District, most schools performed well.

Endangered Species

EPA will defer to the U.S. Fish and Wildlife Service (FWS) regarding potential project impacts to federally-protected species. The DEIS states DOE's preliminary determination that *"the project may affect, but would not likely adversely affect, threatened or endangered species."* The DEIS notes that continuing coordination between DOE and the FWS is planned. Updated information regarding consultations with the FWS and updated aquatic sampling results should be included in the FEIS.

Historic Preservation

Construction activities would impact one onsite historic house. Coordination with the SHPO should be ongoing and documented as the project progresses. The DEIS states that the evaluation and resource recovery would be guided by plans and protocols approved by the SHPO in consultation with Native American tribes. The FEIS should include an update of these coordination activities.

SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION*

Environmental Impact of the Action

LO-Lack of Objections
The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns
The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections
The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory
The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS sate, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1-Adequate
The EPA believes the DEIS adequately sets forth the environmental impact(s) of the preferred alterative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information
The DEIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the DEIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate
EPA does not believe that the DEIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the DEIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the DEIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised DEIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 Policy and Procedures for the Review of the Federal Actions Impacting the Environment